

REMARKS

Status of the Claims

Claims 1 and 5-18 are currently pending in the application. Claims 1-14 stand rejected. Claims 15-18 are withdrawn as being drawn to a non-elected invention. Claims 1 and 6-8 have been amended as set forth herein. Claims 2-4 have been cancelled herein. All amendments and cancellations are made without prejudice or disclaimer. No new matter has been added by way of the present amendments. Specifically, the amendment to claim 1 is supported by as-filed claim 4. Amendment of claims 6-8 are to change dependency from cancelled claim 2 to amended claim 1. Reconsideration is respectfully requested.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 4-7 stand rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. (*See*, Office Action of June 16, 2006, at page 2, hereinafter, "Office Action"). Claim 4 has been cancelled herein without prejudice or disclaimer, thus obviating the rejection as to claim 4. Applicants traverse the rejection as to claims 5-7 as set forth herein.

The Examiner states that claim 5 is vague due to reciting the phrase "having a surface-saponification rate." (*Id.*). The Examiner states that there is no definition in the specification for this phrase.

However, the phrase "surface saponification" is defined on page 8 at the second full paragraph of the as-filed specification (paragraph [0053] of the published application):

The surface *saponification* means that only surface to which a saponifying agent (e.g., NaOH) contacts, is saponified. In the present invention, it is preferable that a structural body of the solid phase is kept as acetyl cellulose and only the surface of the solid phase is saponified. In this way, an amount of hydroxyl groups (density) on the surface of the solid phase can be controlled according to degree of surface *saponification* treatment (surface *saponification* degree). (Emphasis added).

Furthermore, one of ordinary skill in the art understands the meaning of this phrase. The skilled artisan knows that “surface saponification rate” refers to the rate by which hydrolysis of an ester occurs under basic conditions on a surface of a solid phase. Additionally, the skilled artisan recognizes that the rate of surface saponification can be changed by varying the concentration of sodium hydroxide or other strong base and measured by, *inter alia*, quantifying acetyl groups. Therefore, because a skilled artisan understands what the phrase “surface saponification rate” means, from both the prior art and the specification as filed, claim 5 is not indefinite. “If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.” (See, *Exxon Research & Eng’g Co. v. U.S.*, 265 F.3d 1371, 1375, 60 U.S.P.Q.2d 1272, 1276, Fed. Cir. 2001). Furthermore, Applicants point out that a “patent need not teach, and preferably omits, what is well known in the art.” (See, *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1534 (Fed. Cir. 1987)).

Additionally, the Examiner asserts that claims 6-7 are indefinite because it is not clear how “acetylcellulose can be porous and non-porous.” (See the last paragraph on page 2 of the Office Action).

It appears that the Examiner is interpreting the claims to include an embodiment wherein the acetyl cellulose is both porous and non-porous. However, claims 6 and 7 recite different embodiments of acetylcellulose films, those that are porous and those that are non-porous. It is well known within the art that acetylcellulose films can be used to achieve both embodiments. Because these claims do not present any uncertainty or ambiguity with respect to the question of scope or clarity of the claims, claims 6-7 are not indefinite.

Reconsideration and withdrawal of the indefiniteness rejection of claims 5-7 are respectfully requested.

Rejections Under 35 U.S.C. § 102(b)

Su et al., *Anal. Bioch.*, 267:415-418, 1999

Claims 1 and 9-14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Su et al., *Anal. Bioch.*, 267:415-418, 1999 (hereinafter referred to as "Su et al."). (*See*, Office Action, at page 3). Applicants traverse the rejection as set forth herein.

The Examiner states that Su et al. disclose cellulose as a matrix for nucleic acid purification for isolating RNA. (*Id.*). The Examiner further states that Su et al. disclose mixing nucleic acid samples with isopropanol after treating the sample with a solution containing a detergent or chaotropic salts. (*Id.*).

Although Applicants do not agree that claim 1 is anticipated by the disclosure of Su et al., to expedite prosecution, claim 1 has been amended to recite the limitations of non-anticipated claim 4. Thus, since Su et al. do not disclose each and every limitation of amended claim 1, Su

et al. cannot anticipate claim 1. (*See, Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)).

Dependent claims 9-14 are not anticipated as, *inter alia*, depending from a non-anticipated base claim, claim 1.

Reconsideration and withdrawal of the anticipation rejection of claims 1 and 9-14 are respectfully requested.

Voute et al., WO 99/51316

Claims 1-10 and 12-14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Voute et al., WO 99/51316 (hereinafter referred to as "Voute et al."). (*See*, Office Action, at page 3). Claims 2-4 have been cancelled herein without prejudice or disclaimer, thus obviating the rejection as to these claims. Applicants traverse the rejection as to the remaining claims as set forth herein.

The Examiner states that Voute et al. disclose a solid support for purification of large macromolecules and that the solid support or microbeads comprise a dense microporous mineral oxide matrix in which a skin of polymers may be rooted. (*Id.*). The Examiner further refers to Example 17 which the Examiner believes discloses such beads filled with cellulose triacetate from 0.1 to 5% weight. (*Id.*).

However, Voute et al. do not disclose the definition of the surface-saponification rate as presently defined in the presently claimed invention. That is, Voute et al. do not disclose a

method wherein the organic macromolecule is an acetylcellulose having a surface-saponification rate of 0 to 50%, as presently recited in amended claim 1.

Additionally, Voute et al. do not disclose the relationship between surface-saponification rate of acetylcellulose and the separation and purification of RNA from a mixture containing RNA and DNA. That is, there is no disclosure in Voute et al. of the importance of the surface-saponification rate of acetylcellulose and its effect on the ability to separate and purify RNA from a mixture containing both RNA and DNA.

Thus, Voute et al. cannot anticipate amended claim 1 because Voute et al. do not disclose each and every limitation of the presently claimed invention, as recited in amended claim 1.

Likewise, dependent claims 5-10 and 12-14 are not anticipated as, *inter alia*, depending from a non-anticipated base claim, claim 1.

Reconsideration and withdrawal of the anticipation rejection of claims 1-10 and 12-14 are respectfully requested.

CONCLUSION


If the Examiner has any questions or comments, please contact Thomas J. Siepmann, Ph.D., Registration No 57,374 at the offices of Birch, Stewart, Kolasch & Birch, LLP.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Dated: October 16, 2006

Respectfully submitted,



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